

Application Serial No: 10/814,360
In reply to Office Action of 12 September 2005

Attorney Docket No. 84125

REMARKS / ARGUMENTS

Claims 1-19 are currently pending in the application. Claims 5, 7 and 10-19 are allowed. Claims 1-4, 6, and 8-9 are rejected. Claim 9 has been canceled by this amendment.

The Examiner objected that Figure 2 of the drawings lacks labeling for the x and y axis. She required appropriate correction including all of the figures appearing on the sheet. She stated that each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

The Examiner rejected claim 9 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

The Examiner rejected claims 1 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Oplinger, et al (On the Streamline Specimen for Tension Testing of Composite Materials). With respect to Claim 1, the Examiner contended that Oplinger teaches an axisymmetric first end section, an axisymmetric second end section and an axisymmetric gauge section positioned centrally between said axisymmetric first end section and said axisymmetric second end section, wherein said axisymmetric first end section adjoins said axisymmetric gauge section by a first variable curvature transition fillet, and wherein said

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axisymmetric second end section adjoins said axisymmetric gauge section by a second variable curvature transition fillet. The Examiner stated that Figure 1 illustrates the various specimen types of interest and includes a bowtie shaped specimen which has the elements of Claim 1. The Examiner indicated that Oplinger lacks a tensile specimen with a surface stress concentration factor close to unity; however, she found that Oplinger discloses that long slender shapes with gradual tapers are required to avoid shear failures in tension test specimens. In view of this and other statements in Oplinger, she found that it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to develop a tensile specimen with a surface stress concentration factor close to unity. She also found that one skilled in the art would have been motivated to generate the claimed invention with a reasonable expectation of success.

With respect to Claim 8, the Examiner found that Oplinger teaches uniform axial stress fields existing within and adjacent to the gauge section because Oplinger discloses a streamlined specimen shapes which have the capability for minimizing stress peaks responsible for adverse test results.

The Examiner rejected claims 2 and 3 under 35 U.S.C. § 103(a) as being unpatentable over Oplinger, et al ("On the

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Streamline Specimen for Tension Testing of Composite Materials") in view of Hiyoshi (Reference A: U.S Patent No. 6,460,418). With respect to Claim 2, the Examiner provided that, although Oplinger does not elaborate on a first and second collet, she found it inherent that a first and second collet is part of the specimen given that a first and second collet is utilized in order to attach the specimen to conduct tensile tests. She stated that Hiyoshi teaches a first collet positioned substantially near a free end of said axisymmetric first end section and a second collet positioned substantially near a free end of said axisymmetric second end section. She found that test specimen 2 has a first collet and second collet as shown in Figures 1-5. She concluded that it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to utilize a first and second collet in the specimen for the purpose of conducting tensile tests. She stated that one skilled in the art would have been motivated to generate the claimed invention with a reasonable expectation of success.

With respect to Claim 3, the Examiner provided that Hiyoshi teaches a first load transfer region defined by said first shoulder and said axisymmetric first end section, and a second load transfer region defined by said second shoulder and said

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axisymmetric section wherein said first shoulder and said second shoulder are oversized load bearing shoulders. The Examiner stated that Figures 1-5 illustrate the oversized load bearing shoulders which eliminate the possibility of a bearing stress-induced fracture within the first load transfer region and the second load transfer region prior to failing said axisymmetric gauge section.

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Oplinger as applied to claim 1 above, and in view of Whatley. h. With respect to Claim 6, Oplinger lacks a first and second threaded portions positioned near the free ends of first and second sections, it is inherent that a first and second threaded portions are part of the specimen given that threaded portions for test specimen are commonly known and used in the art for conducting specimen tensile tests. Whatley teaches a first threaded portion positioned near a free end of axisymmetric first end section and a second threaded portion positioned near a free end of axisymmetric second end section. (External threads 43 are formed on the outer surface of test specimen receiving portion 30, Column 2, lines 60-61.) It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to utilize a first and second threaded portions in the specimen for the purpose of

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conducting tensile tests. One skilled in the art would have been motivated to generate the claimed invention with a reasonable expectation of success.

These rejections are respectfully traversed in view of the remarks that follow.

Applicant has corrected FIG. 2, and a replacement sheet is submitted herewith.

Applicant has canceled claim 9 rendering the Examiner's rejection of this claim moot.

Concerning claims 1 and 8, Applicant respectfully suggests that Oplinger only shows a flat sample not an axisymmetric sample such as claimed by the Applicant. Figure 1 of Oplinger shows side views of ASTM D638 and ASTM D3039 samples indicating that these samples are flat. In Figure 2 of Oplinger, the bow tie sample is shown with a center line. This merely indicates bilateral symmetry as evidenced by the equations on page 533 that indicate a width and a thickness. In view of this, Applicant suggests that Oplinger does not show a streamlined axisymmetric sample such as that taught by Applicant and claimed in claims 1 and 8.

Furthermore, suggests that an axisymmetric specimen is non-obvious when testing extremely brittle materials because the corners of the specimen act as surface stress concentrators and

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give unstable performance during testing. This is disclosed in the specification at page 4, line 22 through page 5 line 12. This is a reason that the Applicant suggests axial machining or polishing at page 14, line 16 through page 15, line 4. Applicant suggests that an axisymmetric streamlined specimen has non-obvious advantages when testing brittle materials. In view of these arguments or by dependency, Applicant respectfully requests reconsideration and allowance of claims 1-8.

Applicant acknowledges and wishes to express gratitude to the Examiner for her allowance of claims 10-19 and indication of allowability for claims 4 and 7

In view of the remarks above, the Applicant respectfully requests reconsideration and allowance of the application.

The Examiner is invited to telephone James M. Kasischke, Attorney for Applicants, at 401-832-4736 if, in the opinion of the Examiner, such a telephone call would serve to expedite the prosecution of the subject patent application.

Respectfully submitted,
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19 December 2005

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